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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,555	10/24/2003	David C. Lovetro		7490

7590 04/25/2005

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EXAMINER
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CARRILLO, BIBI SHARIDAN

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/691,555

**Applicant(s)**

LOVETRO ET AL.

**Examiner**

Sharidan Carrillo

**Art Unit**

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

22

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 is indefinite because it fails to recite diphosphonic "acid". Claim 13 is indefinite because it fails to positively recite "based on the amount of" hydrogen peroxide. It is unclear what is meant by the phrase "sulfuric acid in an amount from about 0.5 to about 20 weight percent hydrogen peroxide. Claims 14 and 16 are indefinite because it fails to recited diphosphonic "acid". Claim 15 is indefinite because the surfactant is recited twice.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 1-3, 6, 8-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skee (6599370) .

In reference to claims 1 and 15, Skee teaches stabilized alkaline compositions for cleaning microelectronic substrates, the composition comprising a) a base, b) a stabilizing agent, hydrogen peroxide, c) 0.01-10% chelant (phosphonic acid), and d) surfactant (Abstract, col. 8, lines 53-57, col. 6, line 45). In reference to claims 1-3, and 13, Skee teaches in col. 45, lines 59-62 that the composition contains one or more chelating agents having a total concentration range of 0.1% to about 10% by weight. In

Art Unit: 1746

col. 8, lines 50-55, Skee et al. teach that chelating or complexing agents include sulfuric acid and phosphonic acid. Therefore, if the total concentration is about 10% by weight, one possibility given a mixture of sulfuric acid and phosphonic acid is 9.5 percent phosphonic acid and 0.5% sulfuric acid. Given that the hydrogen peroxide is in the range of 0.1-50% by weight and the phosphonic acid is within 0.01 to 10% by weight, the limitations of 20-50% phosphonic acid and 35-45% phosphonic acid, based on the amount of hydrogen peroxide are met by the teachings of Skee. In reference to claim 6, refer to col. 7, line 39, col. 10, line 66. In reference to claims 8-9, refer to col. 45, lines 60-63, col. 8, lines 50-52. In reference to claims 10-11, refer to col. 9, lines 15-19. In reference to claim 12, refer to col. 48, claim 26.

7. Claims 4-5, 14 and 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Skee (6599370) in view of Watts (4070422).

Skee fails to teach the specific phosphonic acid as recited in claims 4-5 and 16. Watts teaches various phosphonic acids for stabilization of hydrogen peroxide. Col. 3, lines 25-29, teaches hydroxyethylidene 1,1-diphosphonic acid is preferred because of its commercial availability.

It would have been obvious to a person of ordinary skill in the art to have modified the method of Skee to include hydroxyethylidene 1,1-diphosphonic acid, as taught by Watts, for the advantages of commercial availability of the reagent.

***Response to Arguments***

8. In view of the newly amended claims and arguments presented by applicant, the rejections of the claims as being obvious or anticipated by Brasch in view of secondary references are withdrawn.

9. Applicant argues that Skee fails to teach a mineral acid. Applicant is directed to col. 8, lines 50-55 and col. 45, lines 58-61.

10. Applicant argues that Watts fails to teach cleaning of metals. Watts is relied upon to teach stabilization of hydrogen peroxide by phosphonic acids which include teaches hydroxyethylidene 1,1-diphosphonic acid. The primary reference of Skee is relied upon to teach cleaning metal surfaces.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on Monday-Friday, 6:00a.m-2:30pm.

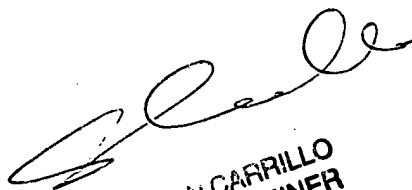
12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharidan Carrillo  
Primary Examiner  
Art Unit 1746

bsc



SHARIDAN CARRILLO  
PRIMARY EXAMINER